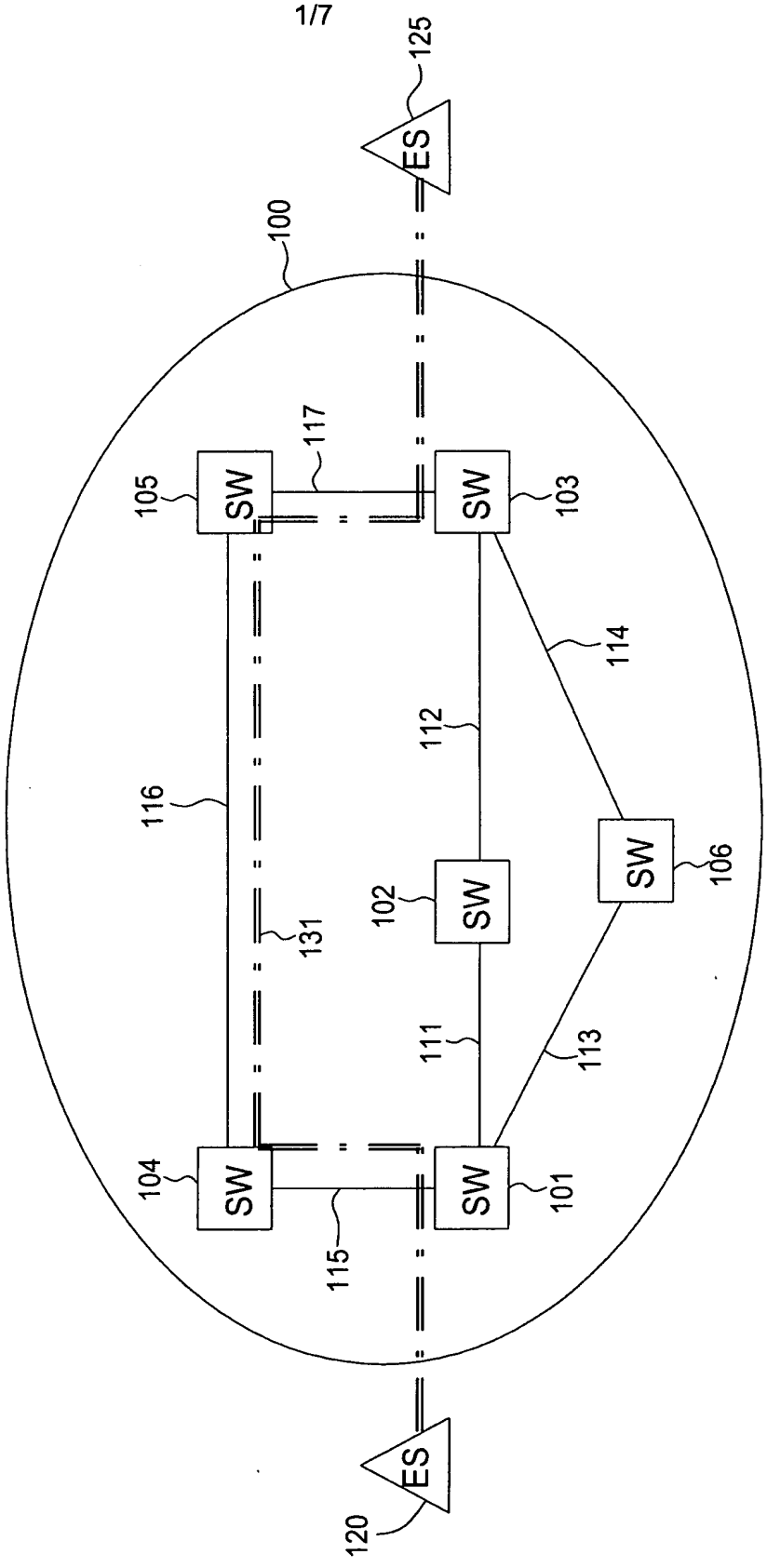
FIG. 1


ES
125
100
SW
105
117
SW
103
114
112
116
SW
106
102
SW
131
111
113
SW
104
SW
101
115
ES
120

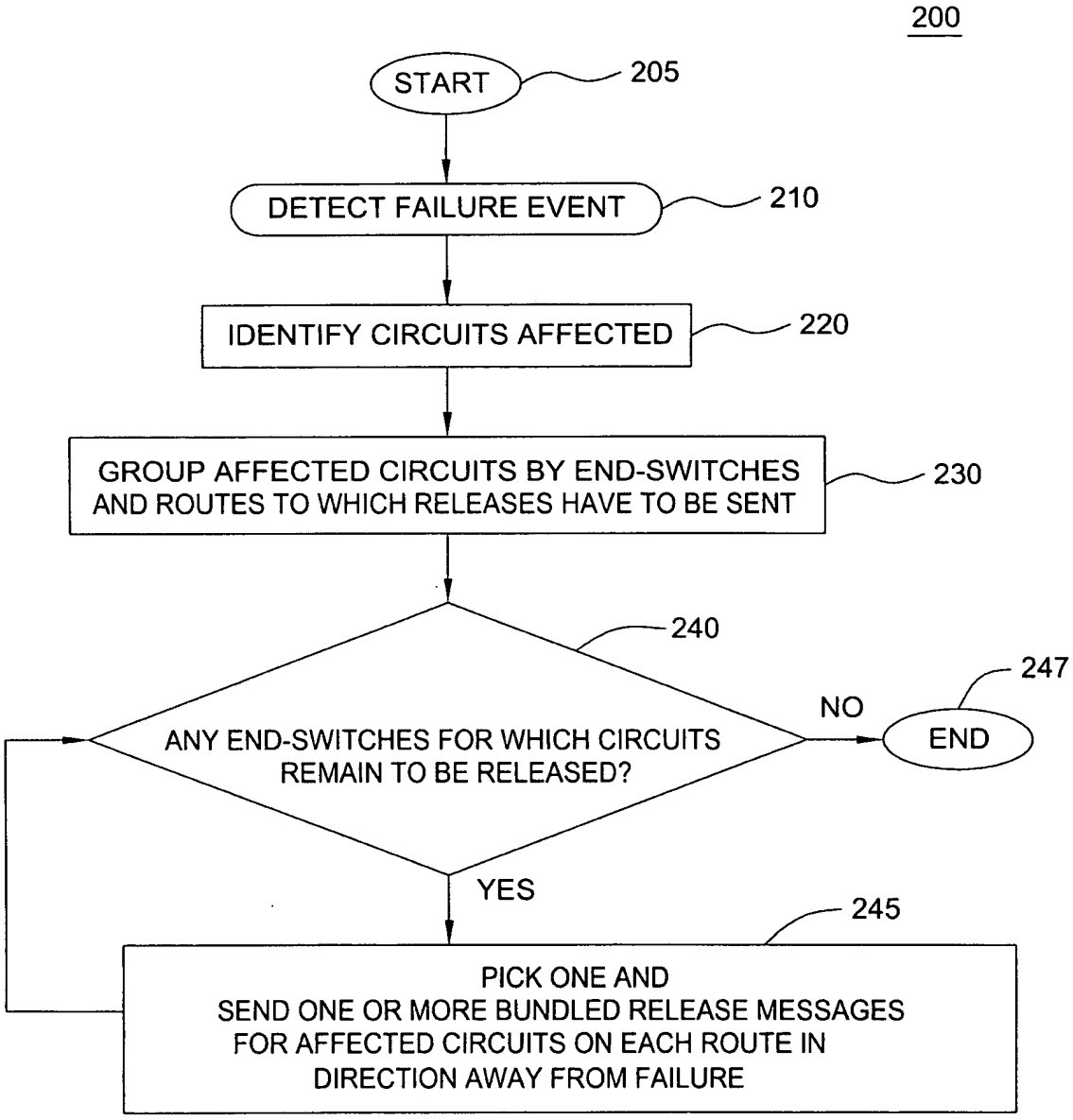

200
START
205
DETECT FAILURE EVENT
210
IDENTIFY CIRCUITS AFFECTED
220
GROUP AFFECTED CIRCUITS BY END-SWITCHES AND ROUTES TO WHICH RELEASES HAVE TO BE SENT
230
240
ANY END-SWITCHES FOR WHICH CIRCUITS REMAIN TO BE RELEASED?
NO
247
END
YES
245
PICK ONE AND SEND ONE OR MORE BUNDLED RELEASE MESSAGES FOR AFFECTED CIRCUITS ON EACH ROUTE IN DIRECTION AWAY FROM FAILURE

FIG. 2

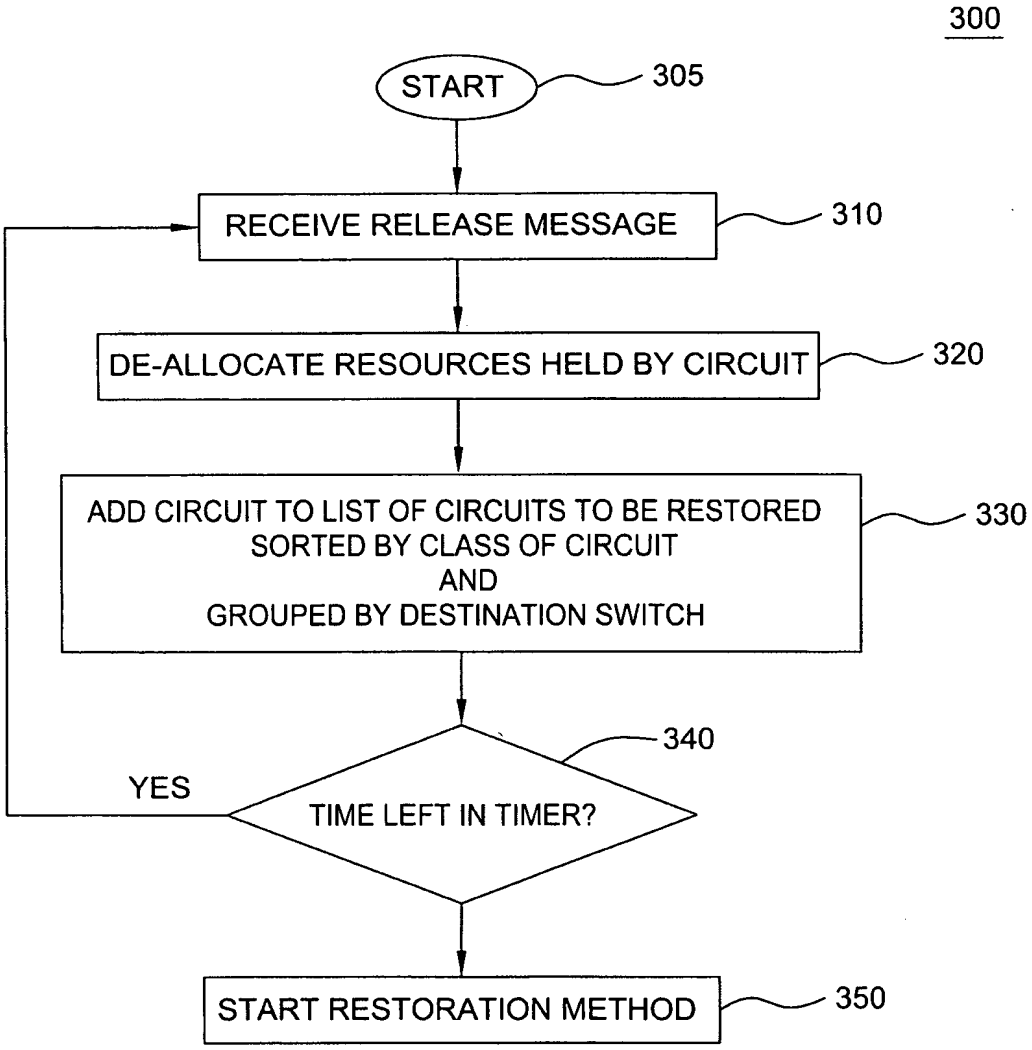

300
START
305
RECEIVE RELEASE MESSAGE
310
DE-ALLOCATE RESOURCES HELD BY CIRCUIT
320
ADD CIRCUIT TO LIST OF CIRCUITS TO BE RESTORED
SORTED BY CLASS OF CIRCUIT
AND
GROUPED BY DESTINATION SWITCH
330
340
YES
TIME LEFT IN TIMER?
START RESTORATION METHOD
350

FIG. 3

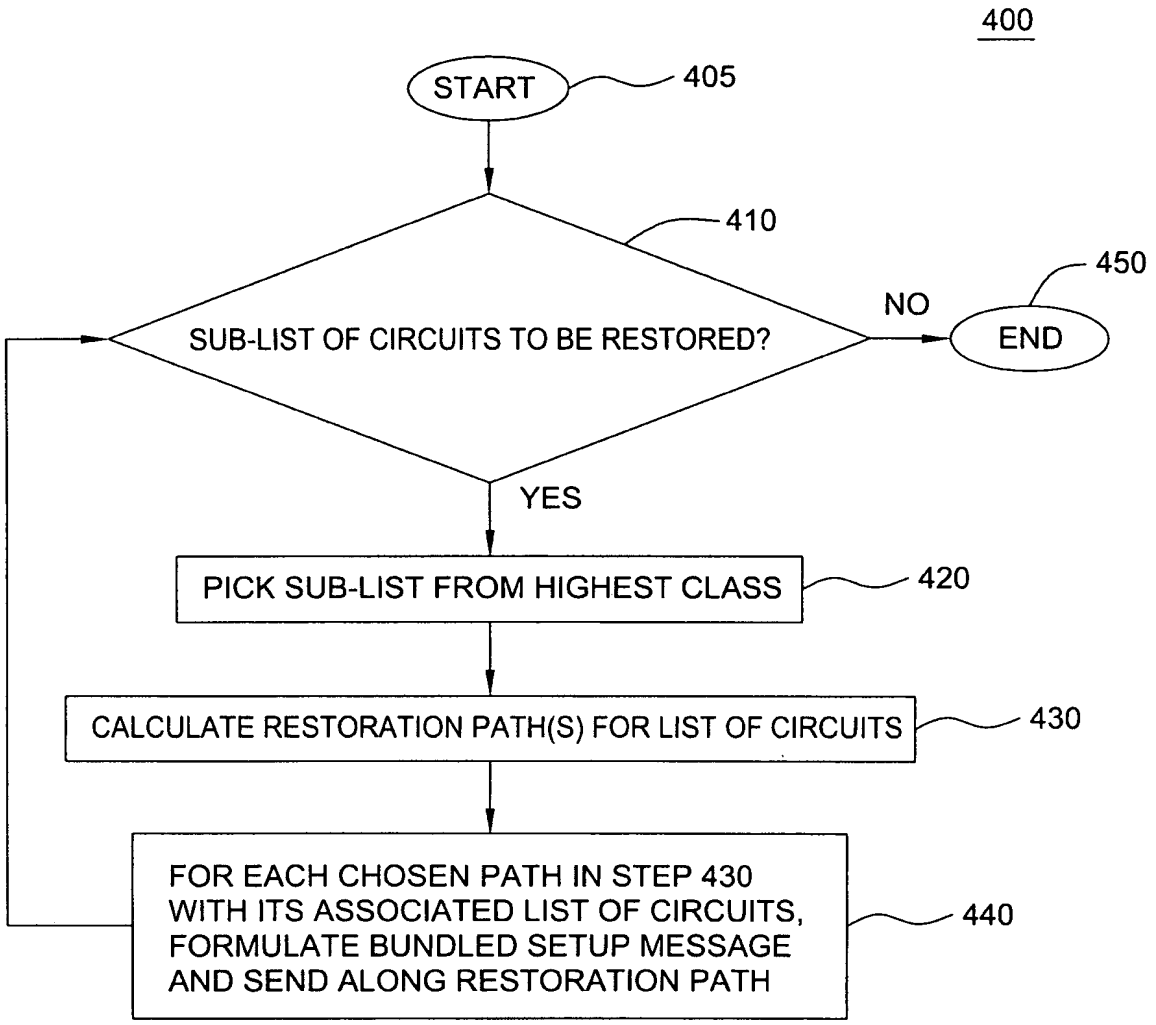

400
START
405
410
SUB-LIST OF CIRCUITS TO BE RESTORED?
NO
450
END
YES
PICK SUB-LIST FROM HIGHEST CLASS
420
CALCULATE RESTORATION PATH(S) FOR LIST OF CIRCUITS
430
FOR EACH CHOSEN PATH IN STEP 430
WITH ITS ASSOCIATED LIST OF CIRCUITS,
FORMULATE BUNDLED SETUP MESSAGE
AND SEND ALONG RESTORATION PATH
440

FIG. 4

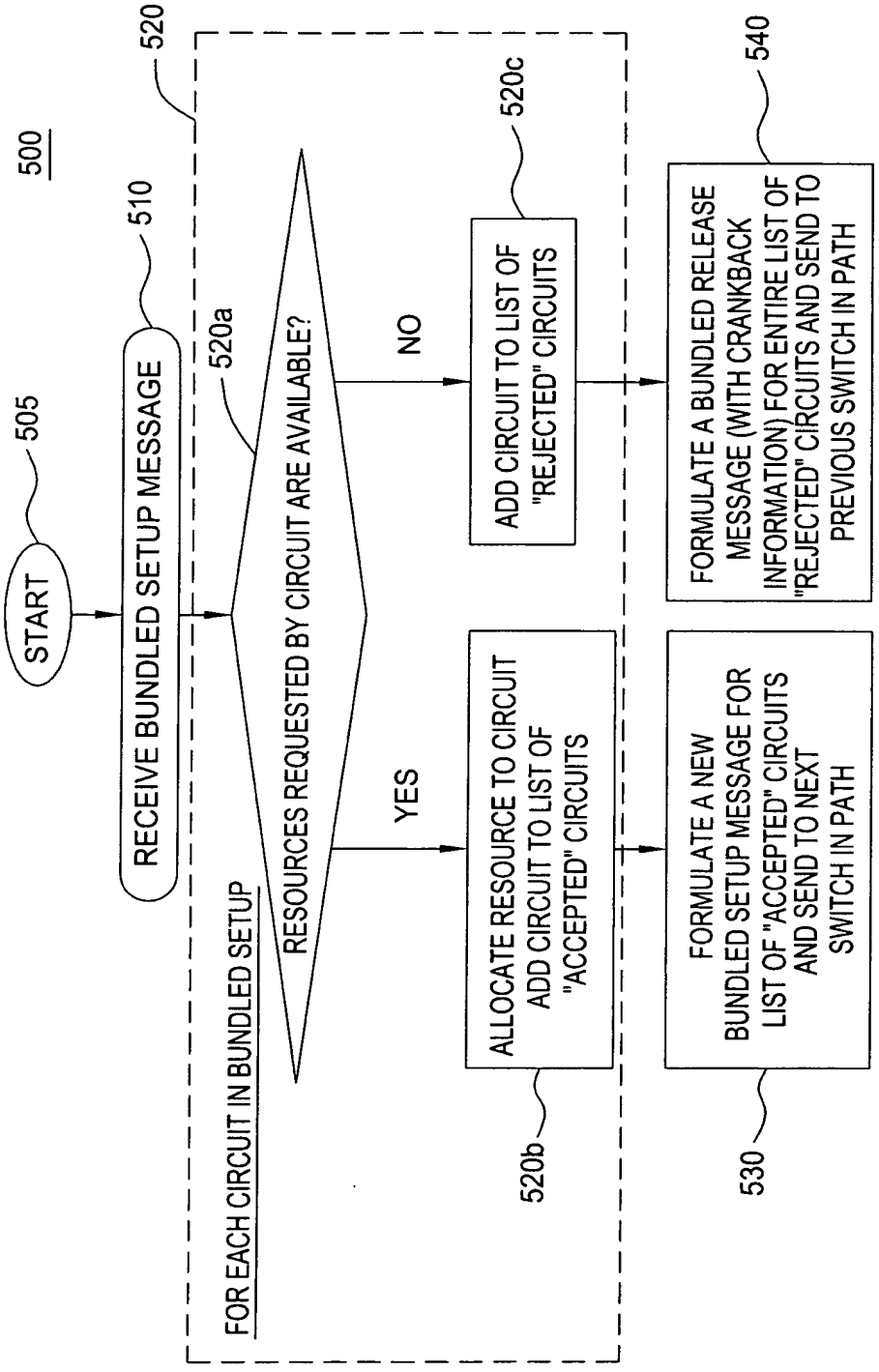

500
START
505
RECEIVE BUNDLED SETUP MESSAGE
510
520
FOR EACH CIRCUIT IN BUNDLED SETUP
520a
RESOURCES REQUESTED BY CIRCUIT ARE AVAILABLE?
YES
NO
ALLOCATE RESOURCE TO CIRCUIT
ADD CIRCUIT TO LIST OF
"ACCEPTED" CIRCUITS
520b
ADD CIRCUIT TO LIST OF
"REJECTED" CIRCUITS
520c
FORMULATE A NEW
BUNDLED SETUP MESSAGE FOR
LIST OF "ACCEPTED" CIRCUITS
AND SEND TO NEXT
SWITCH IN PATH
530
FORMULATE A BUNDLED RELEASE
MESSAGE (WITH CRANKBACK
INFORMATION) FOR ENTIRE LIST OF
"REJECTED" CIRCUITS AND SEND TO
PREVIOUS SWITCH IN PATH
540

FIG. 5

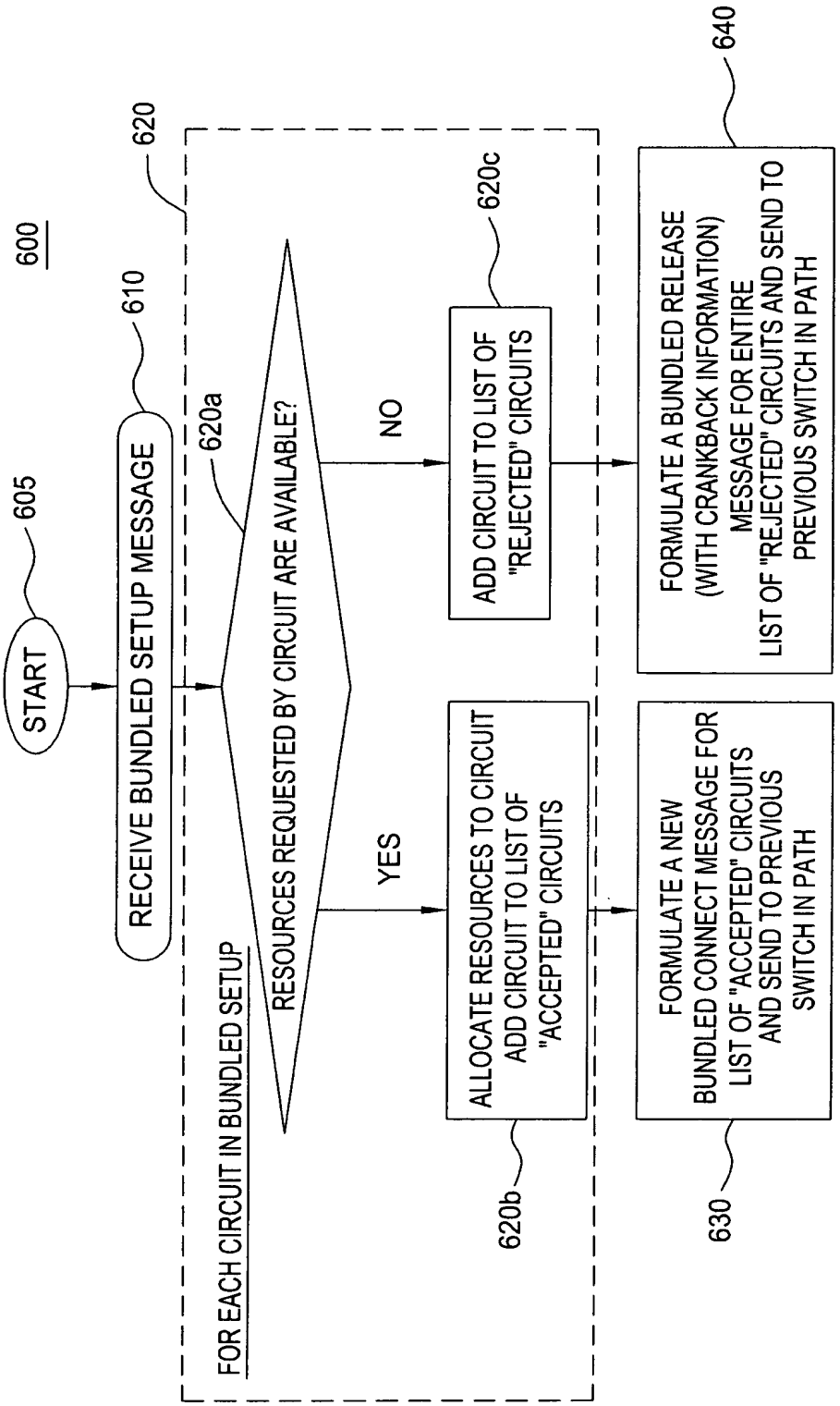

600
605
START
610
RECEIVE BUNDLED SETUP MESSAGE
620
FOR EACH CIRCUIT IN BUNDLED SETUP
620a
RESOURCES REQUESTED BY CIRCUIT ARE AVAILABLE?
YES
NO
620b
ALLOCATE RESOURCES TO CIRCUIT
ADD CIRCUIT TO LIST OF
"ACCEPTED" CIRCUITS
620c
ADD CIRCUIT TO LIST OF
"REJECTED" CIRCUITS
630
FORMULATE A NEW
BUNDLED CONNECT MESSAGE FOR
LIST OF "ACCEPTED" CIRCUITS
AND SEND TO PREVIOUS
SWITCH IN PATH
640
FORMULATE A BUNDLED RELEASE
(WITH CRANKBACK INFORMATION)
MESSAGE FOR ENTIRE
LIST OF "REJECTED" CIRCUITS AND SEND TO
PREVIOUS SWITCH IN PATH

FIG. 6

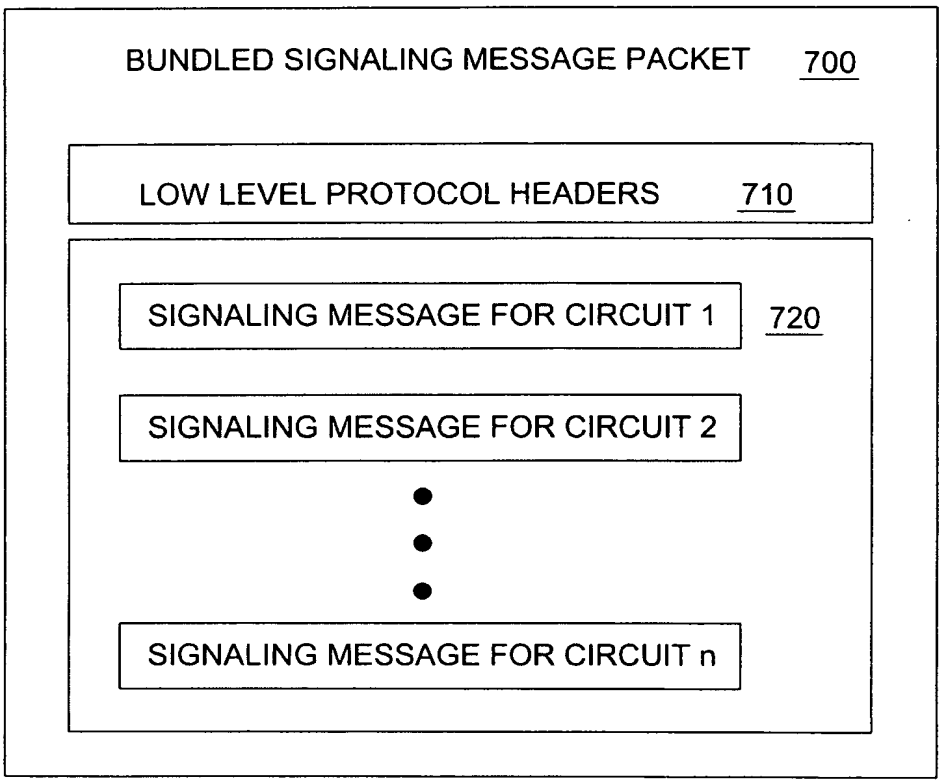

BUNDLED SIGNALING MESSAGE PACKET 700
LOW LEVEL PROTOCOL HEADERS 710
SIGNALING MESSAGE FOR CIRCUIT 1
720
SIGNALING MESSAGE FOR CIRCUIT 2
SIGNALING MESSAGE FOR CIRCUIT n

FIG. 7